ACC.13
62nd Annual Scientific Session & Expo
TCT@ACC-i2

E2083
JACC March 12, 2013
Volume 61, Issue 10

Vascular Medicine

TRANSTHORACIC ECHOCARDIOGRAPHY PROVIDES IMPORTANT LONG-TERM PROGNOSTIC INFORMATION IN PATIENTS UNDERGOING ENDOVASCULAR ABDOMINAL AORTIC REPAIR

Poster Contributions
Poster Sessions, Expo North
Sunday, March 10, 2013, 3:45 p.m.-4:30 p.m.

Session Title: Vascular Medicine: Endovascular Therapy III
Abstract Category: 34. Vascular Medicine: Endovascular Therapy
Presentation Number: 1253-165

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Background: Transthoracic echocardiography (TTE) is routinely requested as part of the clinical assessment of patients awaiting endovascular repair of the abdominal aorta (EVAR). However, the long-term prognostic value of this imaging modality is unclear. The aim of this study was to assess pre-operative echocardiographic predictors for all-cause mortality in a group of patients undergoing EVAR.

Method: Two hundred and seventy three patients who underwent EVAR were studied. All patients had a TTE prior to the procedure. Patients were prospectively analyzed and the main outcome measure was all-cause mortality.

Results: One patient died during the procedure and over a mean follow up of 1.8±0.8 years there were 52 (19%) deaths with a mean time to death of 0.7±0.3 years. The only clinical parameter significantly associated with all-cause mortality was heart failure (11.5 vs 1.4%, p<0.001). Of the echo parameters, patients that died had significantly greater left ventricular (LV) end systolic diameter (3.47±0.8 vs 3.11±0.7 cm, p=0.004), LV end diastolic diameter (5.11±0.7 vs 4.83±0.6 cm, p=0.009), pulmonary artery pressure (PAP) (39.1±16.8 vs 33.9±9.9 mmHg, p=0.028), ascending aortic diameter (3.88±0.7 vs 3.52±0.5 cm, p=0.032) and significantly lower LV fractional shortening (59±12 vs 62±12%, p=0.036). A greater proportion of patients who died had resting wall motion abnormalities (40.4 vs 19.9%, p=0.001), mitral regurgitation (MR) (55.8 vs 35.3%, p=0.023), tricuspid regurgitation (26.9 vs 20.8%, p=0.033), and PAP >35 mmHg (42.3 vs 22.2%, p=0.017). With multivariate regression analysis, a greater ascending aortic diameter (HR 3.46, 95% CI 1.21-9.87, p=0.02) and MR (HR 2.15, 95% CI 2.03-2.74, p=0.02) were the only independent predictors of total mortality.

Conclusion: Echocardiography provides important long-term prognostic information in patients undergoing EVAR. These echo indices were more important at predicting outcome than standard conventional risk factors in this patient group. A greater ascending aortic diameter and presence of MR were independently associated with all-cause mortality.